

Section 2

THE US ECONOMY UNDER HIGH INFLATION

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1. The US Economy: Why Are Prices Soaring in the US?

As of May 2022, production and employment in the US have been recovering steadily from the COVID-19 recession. Production already exceeded the pre-pandemic level by mid-2021 and has kept increasing. Likewise, in the labor market, the unemployment rate has been declining rapidly since mid-2021 and reached the low rate of 3.6% in May.

Prices are rising, however, and the recovery in production and employment are fraught with the risk of economic overheating. Based on the Consumer Price Index (CPI), inflation rates (12-month percentage change) in March, April, and May 2022 were as high as 8.5%, 8.3%, and 8.6%, respectively, well above the 2% target (see [Figure 1-2-1](#)). The Federal Reserve Board (FRB), which had initially interpreted the rise in prices as transitory and kept the expansionary monetary policy in response to the COVID-19 crisis, has changed its stance to a neutral at first, and then to a contractionary monetary policy since the end of 2021. The primary focus as of May 2022 has now shifted to whether the FRB's continued monetary tightening will allow the US economy to make a soft landing on its growth trajectory.

To examine the various aspects described above, it is necessary to understand why the current inflation rate is high in the US, whether it will continue to rise, how the FRB has responded to high inflation, and how it intends to deal with it in the future. In this report, we also discuss how these movements in the US economy will affect the Japanese economy.

Why is the US currently experiencing high inflation? The following six points are important in explaining the current high inflation rate: (1) the government's massive fiscal stimulus and the FRB's bold monetary easing to counter the COVID-19 pandemic; (2) the surging prices of resources such as crude oil, natural gas, nickel, and others, as the economy recovers from the COVID-19 recession; (3) the disruption of the supply chain of goods and services as a result of the global spread of the COVID-19 pandemic; (4) the shortage of workers in the US; (5) the further rising prices of resources and food as a result of Russia's invasion of Ukraine; and (6) the statistical bias caused by the use of 12-month percentage change comparisons.



Figure 1-2-1

US Consumer Price Inflation (% change from the same month of the previous year)

Source: Federal Reserve Bank of New York

First, we will start with (6) the statistical bias which is easy to understand. When the COVID-19 broke out widely in the US in March 2020, total spending fell sharply, especially in the service industry, and the CPI inflation rate plummeted from around 2% to near 0% (see Figure 1-2-1). Then the CPI inflation rate remained well below 2% throughout the year 2020. Therefore, the CPI inflation rate for the year after March 2021 was calculated based on the low price levels during 2020, resulting in a higher inflation rate. (This might be one of the reasons why the FRB initially thought that the inflation spike was transient.) This bias, however, was and will be eliminated after March 2022, and it is not necessary to consider this problem (6) to any great extent as of May 2022.

To consider the impact of the remaining five factors, it is easier to understand them by using the framework of an aggregate demand and supply analysis (see Chapter 1, Section 2 of the “Kansai and the Asia Pacific Economic Outlook 2020” for more information). According to this analytical framework, the COVID-19 pandemic shifts the aggregate demand curve when it affects people’s spending behavior and shifts the aggregate supply curve when it affects firms’ production activities. In the case of the COVID-19 pandemic, the decrease in people’s spending due to the COVID-19 disaster shifts the aggregate demand curve downward to the left, and as a result, prices fall and output also declines. On the other hand, a disruption in the production-supply network shifts the aggregate supply curve upward to the left, and as a result, prices rise and output declines.

The first blow of the COVID-19 pandemic to the economy was at aggregate demand. The service and other related industries have experienced large declines in their sales. Many countries around the world, however, adopted appropriate expansionary fiscal and monetary policies, and the global economy began to recover quite quickly. As global aggregate demand started to come back, the prices of resources such as crude oil, natural gas, and nickel soared.

A sharp rise in resource prices raised the cost of production, shifting the aggregate supply curve upward. As a result, prices went up (see (2) above).

The COVID-19 pandemic has been spreading around the globe from place to place and time to time. At the same time, the global supply chain, as the name “chain” implies, is multi-layered and easy to be disrupted due to an infectious disease. A disruption occurs even if one chain is broken in this supply chain network. Therefore, supply shortages are likely to occur (Grossman, 2022). Supply chain disruptions shift the aggregate supply curve to the upper left, causing prices to rise (see (3) above).

Because the US government and the FRB’s COVID-19 recession countermeasures were extremely swift and extensive, the US economy recovered quite quickly from its initial serious unemployment rate of 14.7%. Bailouts, especially by fiscal policy, have been massive and seamless, beginning with the former President Trump and continuing under the current President Biden. With these generous government bailouts, an increasing number of people left the labor market. Numerous workers did not return to their jobs when the economy recovered, including those who did not want to return to the jobs that were susceptible to COVID-19. Partly due to the recovery from the COVID-19 recession, the labor market is getting tighter, which puts upward pressure on wages (see (4) above).

Russia invaded Ukraine on February 24, 2022. Currently, as of the end of July 2022, the war between Russia and Ukraine is still ongoing. The Russian invasion of Ukraine resulted in global shortages of resources and foodstuffs, including crude oil, natural gas, wheat, and nickel, and their prices have skyrocketed. Shortages in the supply of these goods also shift the aggregate supply curve upward to the left in the US, pushing up prices. Gasoline and wheat price hikes, in particular, have hit consumers hard (see (5) above).

Each factor in the above contributes to explain the current sharp rise in prices in the US economy. However, the most fundamental cause of inflation is the bold monetary easing measures taken by the FRB and the expansionary fiscal policy of the US government, both of which were implemented as countermeasures against the COVID-19 recession. Expansionary fiscal and monetary policies shift the aggregate demand curve to the right. As a result, prices rise (see (1) above). Although the FRB initially believed that the rapid rise in prices would be transient, it clearly recognized the risk of persistent high inflation over the medium to long term in the future, and therefore has drastically changed its policy stance since the beginning of 2022. We will explain this point in the next section.

2. Shift from Monetary Easing to Tightening

(1) Countermeasures against COVID-19 Recession

The U.S. government has provided a series of fiscal stimulus against COVID-19 recession under both the Trump and Biden administrations to protect people's daily life. In March 2021, the congress has approved the Biden's American Rescue Plan Act, amounting to approximately USD 1.9 trillion. With no supports from Republicans, Democrats, who have decision-making power both in the House and Senate, have passed the Act, which is now being implemented as of May 2022. This Act focuses largely on supporting households. The bailout plan consists of USD 400 billion in cash benefits, USD 250 billion in unemployment benefits, USD 400 billion in COVID-19 measures, and USD 850 billion in other benefits.

On March 3, 2020 when the COVID-19 was spreading widely, the FRB lowered its target for the short-term market interest rate from a range between 1.5% and 1.75% to between 1.0% and 1.25%, and further lowered it to between 0% to 0.25% on March 15. Simultaneously, it continued to use a variety of monetary easing measures to provide liquidity. Specifically, the FRB has continued to supply a large quantity of monetary base by purchasing large amounts of government bonds and mortgages issued by government-related agencies (known as Quantitative Easing (QE)). To understand the FRB's series of monetary easing policies, see [Figure 1-2-2](#).

(2) FRB's Shift to a Tighter Monetary Policy

[Figure 1-2-2](#) shows that the supply of monetary base was skyrocketing in March 2020, when COVID-19 exploded in the U.S. The base money continued to increase at a rapid pace after that as well. Recognizing the risk that the surge in prices might not be transient but could last in the medium to long term, however, the FRB shifted its policy toward decelerating monetary easing, and ended its QE policy in March 2022. Now the FRB has been rapidly tightening its monetary policy because the seriousness of the inflation has become increasingly clear.

Specifically, in response to the very high CPI inflation rate of 8.5% of March 2022, the FRB raised its target for short-term market interest rate from a range between 0% and 0.25% to between 0.25% and 0.50% at the Federal Open Market Committee (FOMC) meeting in March. At the subsequent FOMC meeting in May, it further raised the target range to between 0.75% and 1.00%.

It also raised the interest rate on reserve deposits from 0.15% to 0.4% on

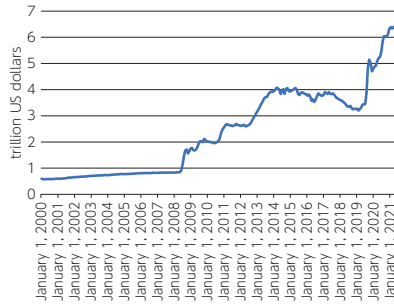


Figure 1-2-2

Monetary Base (Jan 2000 to Mar 2022: before seasonal adjustment)

Source: Federal Reserve Bank of St. Louis

March 17, 2022, and again further to 0.9% on May 5. In addition, in June, the FRB started Quantitative Tightening (QT), which is a decrease in the monetary base. As a result of the FRB's policy shift described above, Figure 1-2-2 shows that the monetary base balance has reversed its course and is now declining. The most important message obtained from Figure 1-2-2 is that the monetary easing policy in response to the COVID-19 recession was implemented in a very short period of time and on a very large scale compared to previous easing policies. These facts on monetary policy contribute to the current sharp inflation.

3. Outlook for Inflation in the US Economy

(1) Experience of High Inflation in the 70s and early 80s

When we think of high inflation, we recall the high inflation after the first oil shock in 1973 in Japan, but in the US, it is the high inflation of the late 1970s. Excessive monetary easing policies continued from the mid-1960s, and as a result, inflation and expected inflation rates continued to rise, peaking at about 13%. Just as in the case of the current inflation, the rise in oil and food prices and the expansion of fiscal spending (due to the Vietnam War) also contributed to the high inflation at that time.

Paul Volcker, who became FRB Chairman in 1979, demonstrated leadership and overcame this inflationary crisis. His bold restrictive monetary policy was successful in subsiding the high inflation rate to 3% to 4% and stabilizing the economy. This tightening process, however, also caused the real economy to fall into a serious recession at the same time. This bitter experience taught us an important lesson. Once people's expectations of high inflation become embedded in their productive and spending behavior, it is highly costly to remove them. For example, if wages are negotiated on the assumption of high inflation,

even higher inflation will certainly come out. If the even higher inflation comes out, then the next year's wage negotiations will take place based on the assumption of this even higher inflation rate. Hence inflation persists.

A rise in the price level is not the same as a continuing (or accelerating) high inflation rate. Price increases are a matter of level, whereas continued high inflation is a matter of growth rate. For example, if the price of oil increases at a given point in time, the price increase pushes up the inflation rate for the year in question but does not in itself lead to a higher inflation rate in the second and subsequent years. High inflation will continue only when people change their behavior based on the assumption of high inflation. Whether high inflation continues or not depends on people's expectations on the future course of inflation rates.

(2) Expected Inflation Rate

How do we measure people's expected inflation rates? We introduce two types of indicators. The first type comes from a survey conducted by the University of Michigan, called the University of Michigan Surveys of Consumers. The second one is the statistical data of the breakeven inflation rate (BEI). We use these two to report the current expected inflation rate for the United States.

Figure 1-2-3 and Figure 1-2-4 are the results on the consumers' expected inflation rates over the next year and the next five years, respectively, obtained by the University of Michigan monthly survey.

Figure 1-2-3 shows that the expected inflation rate over the next year began to increase rapidly in April 2020, rose sharply to 4.6% in May 2021, and then reached 5.3% as of May 2022, the most recent month available. It is rising rapidly, reflecting the actual increase in the current inflation rate.

The expected inflation rate for the next five years, however, provides a somewhat different picture, as shown in Figure 1-2-4. The expected inflation rate over the next five years was found to be relatively stable, standing at around 3.0% as of May 2022. This suggests that many people believe that, based on the current inflation rate, inflation will remain somewhat high next year, but that high inflation will eventually subside in the medium to long term. One reason is that the current high inflation rate is mainly caused by the shortage in the supply of resources and foodstuffs at the global level, which people take as transient. Above all, the US economy has been successful in avoiding high inflation for the past 40 years by taking appropriate monetary policies. This successful experience is the key element in keeping medium- and long-term inflation expectations largely unchanged. These results could be interpreted as a reflection of people's confidence in the FRB. The results on the five years expected

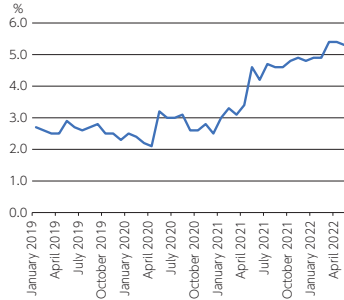


Figure 1-2-3

University of Michigan Surveys on Consumers' Expected Inflation Rates for the Next 12 Months (January 2019 to May 2022)

Source: University of Michigan

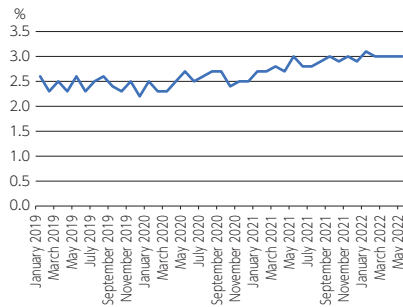


Figure 1-2-4

University of Michigan Surveys on Consumers' Expected Inflation Rates Over the Next Five Years (January 2019 to May 2022)

Source: University of Michigan

inflation rates also indicate that the high expected inflation rate has not yet been incorporated into people's economic behavior.

These are the results of the survey conducted by the University of Michigan. To reinforce this interpretation, we also present the results of one more indicator, the expected inflation rate based on the BEI. [Figure 1-2-5](#) shows the BEI index over a five-year horizon.

Government bonds that promise the real interest rate, which is the nominal interest rate minus the inflation rate, are called inflation-indexed bonds. Holders of inflation-indexed bonds receive a real interest income in line with changes in the inflation rate. Interest rate arbitrage works between the market for these inflation-indexed bonds and the market for regular government bonds. For example, as more investors expect higher inflation in the future, more investors will buy inflation-indexed bonds that earn more interest in response to higher inflation. In this case, the price of an inflation-indexed bond becomes higher

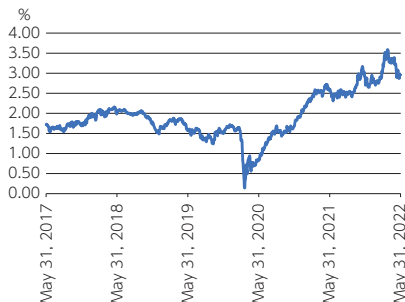


Figure 1-2-5 Five-Year Breakeven Inflation Rate (May 2017 to May 2022)

Source: Federal Reserve Bank of St. Louis

than the price of a regular government bond (The market yield of the inflation-indexed bond decreases). Conversely, if more investors expect inflation to decline in the future, the price of the inflation-indexed bond will fall (The market yield of the inflation-indexed bonds will rise). Interest rate arbitrage is at work between the observed yield on the 5-year inflation-indexed bond and the yield on the regular 5-year bond, and the result determines the respective bond prices (i.e., their yields).

BEI refers to the expected inflation rate such that the yields of the two types of government bonds with the same maturity will have the same (breakeven) yield due to interest rate arbitrage between the yield on a regular government bond and the yield on an inflation-indexed bond that promises the real rate of interest. Therefore, the BEI of a five-year government bond can be interpreted as an indicator of the expected inflation rate over the next five years by market participants.

The BEI differs from the University of Michigan survey in that the University of Michigan survey is based on questionnaires, whereas the BEI is calculated as the difference between the yields of two government bonds. The former is a measure of consumers' expected inflation, while the latter is a measure of financial market participants' expected inflation. They are different in this respect as well.

Despite these differences in nature between the BEI and the University of Michigan survey's expected inflation, [Figure 1-2-4](#) and [Figure 1-2-5](#) show very similar results. Even though the current inflation rate has remained in the 8% range, the five-year BEI has also been relatively stable, remaining around the 3% range. In fact, reflecting the FRB's shift in monetary policy since the beginning of 2022, the five-year BEI peaked in March 2022 and has since fallen to just below 3%.

These results indicate that, at least as of May 2022, the medium- to long-term expected inflation rate is relatively stable. This finding suggests that the recent sharp increase in inflation has not yet been significantly built into people's economic behavior.

(3) Trends in the Global Resources and Food Markets

The medium- to long-term expected inflation rate has not risen much as of May 2022. However, it will eventually rise if the current high inflation rate continues for some time. Once the expected inflation rate rises, people's economic behavior is likely to change, causing high inflation to continue or accelerate. Once high inflation persists or accelerates, we will have to pay the high price of a severe recession in the future.

At present, possible factors to cause high inflation in the future are the surging prices in foodstuffs, such as wheat, and in resources such as crude oil. Please take a look at Chapter 1, Section 1 of this report, discussing the trends in energy markets, especially of crude oil. Here in this Section, we only briefly examine the West Texas Intermediate (WTI) crude oil price as a sample of these markets (Figure 1-2-6).

COVID-19 has spread widely since the beginning of 2020, leading to a decrease in spending at the global level. As a result, energy prices initially collapsed. The WTI crude oil price in Figure 1-2-6 shows a sharp drop to a level of USD 16 per barrel in April 2020. The WTI price subsequently began to rise as the global economy recovered.

The WTI price has surged further with Russia's invasion of Ukraine on February 24, 2022. In addition to crude oil, the EU has decided to stop buying natural gas from Russia in order to reduce its energy dependence on Russia.

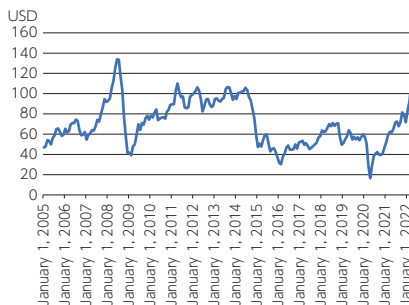


Figure 1-2-6

WTI Crude Oil Price (USD: 1 barrel) (January 2005 to May 2022)

Source: Federal Reserve Bank of St. Louis

This also reduces energy supply in the West in the short run, thus raising energy prices. The growth rate of energy price in 38 OECD countries remains high at 32.5% (12 month percentage change; OECD: April 2022).

Food commodities, including wheat, continue to trade at high prices at the global level, as do energy prices. Soaring food and resource prices are another important factor contributing to the current high inflation in the US economy.

(4) Three Risks

As discussed, the US economy has been expanding steadily in terms of production and employment. The medium- to long-term expected inflation rate is also quite firmly anchored near the 2% inflation target. Political risks aside, however, the US economy faces at least three risks.

The first risk is the Russian-Ukrainian war. As noted above, the war has caused shortages of resources and foodstuffs at the global markets. In the aggregate demand and supply diagram, the supply shortages of resources and foodstuffs imply a shift of the aggregate supply curve to the upper left, pushing prices to up and real GDP to down. In addition, trade restrictions imposed on Russia by Western countries and the withdrawal of local subsidiaries from Russia also provide negative impacts on the U.S. economy.

The second is the risk of a recession due to the sharp monetary tightening by the FRB. The FRB is currently mobilizing all of its policy tools in an effort to calm down high inflation. If the current high inflation rate were to continue, it would increase the likelihood of higher expected inflation in the medium to long term as well. Hence, there is certainly a need to put the current high inflation under control as soon as possible. At the same time, however, if the FRB tightens monetary policy too much and/or too aggressively, it might invite a serious recession within the next two years.

Rapid monetary tightening over a short period of time does not merely lower consumption spending on automobiles and other consumption goods, and investment spending on equipment and housing. Bondholders also might incur capital losses due to higher interest rates. Because stocks, land, and houses are also (imperfect) substitutes for currencies, holders of these assets might also incur capital losses. Individuals or institutions incurring capital losses might reduce their spending, which could lead to a downturn in the real economy. In fact, the stock market, concerned about such future risks, has now turned around from its previous uptrend and has been bearish since the beginning of 2022. If capital losses should become so large that their impacts spread further to the point where they shake the solvency of financial institutions, the turmoil might become even greater.

The third risk is the re-emergence of COVID-19 infections, which still requires an appropriate response.

(5) Summary of the US Economy

For now, the five-year expected inflation rate is anchored quite firmly in the 3% range, even though the actual US inflation rate is hovering over the 8% range. In the future, however, there is a risk that the medium- to long-term expected inflation rate might rise if the prices of natural resources, such as crude oil and natural gas, or foodstuffs like wheat should keep rising. The FRB has been striving to prevent such a situation from occurring by tightening monetary policy and calming the overheated economy. The policy change to monetary tightening has been so boldly implemented in a relatively short span of time that it might lead to a recession in the near future. Given there is a considerable time lag before the effects of the monetary policy change are transmitted to the real economy, it will be necessary to continue to monitor closely developments in the real economy.

4. Impact on the Japanese Economy

(1) Current State of the Japanese Economy

Production began to fall in mid-2019 due to the US-China trade friction. Japan's consumption tax hike in October 2019 also caused a significant drop in production. The spread of COVID-19 infections exacerbated these economic downturns. Despite all these headwinds, the Japanese production at one time approached near to the level before the pandemic, thanks to the appropriate responses by the government and the Bank of Japan. However, production subsequently deteriorated again, partly because the fifth wave of the COVID-19 pandemic coincided with the summer Olympics and Paralympic Games in Tokyo. The production level in the Japanese economy as of May 2022 is still lower than that in February 2020 before the COVID-19 outbreak. Japan's economic recovery has been slower and weaker than that of the United States.

The unemployment rate, which temporarily exceeded 3% due to the COVID-19 wide outbreak in March 2020, has been slowly recovering, and falling to 2.5% as of April 2022. However, the level before the pandemic has not been reached yet.

As for prices, as shown in [Figure 1-2-7](#), spending has been weak mainly in the services sector, and service prices have kept falling. The headline CPI fell sharply in the wake of the spread of COVID-19 after March 2020, due to a decline in consumption expenditures (especially in the services sector).

In 2021, the prices of goods rose sharply as shown in [Figure 1-2-8](#) for



Figure 1-2-7

Services Prices in the Japanese Economy (12 month percentage change)

Source: Federal Reserve Bank of New York



Figure 1-2-8

Goods Prices in the Japanese Economy (12 month percentage change)

Source: Federal Reserve Bank of New York

four reasons: (a) energy prices began to soar as the US and European economies recovered to some extent from the COVID-19 disaster; (b) the COVID-19 disaster disrupted the global production supply chain, driving up the prices of imported goods; and in 2022, (c) the FRB's change in monetary policy weakened the yen, driving import prices even higher; and (d) Russia's invasion of Ukraine led to a further surge in resource and food prices.

(2) The Immediate Impact of FRB Monetary Tightening on the Japanese Economy

In 2022, the FRB has changed its monetary policy stance from monetary easing to tightening. This section explains how this change in monetary policy in the US is affecting the Japanese economy, and prices in particular.

The FRB's policy transition has an immediate impact on the Japanese economy through at least three channels. The three paths are through stock prices,

interest rates, and foreign exchange rates. The FRB's rapid shift to a tighter monetary policy has raised the US interest rates, lowered bond prices, and made bearish the US stock market (despite a strong real economy). The weak stock market is caused by investors' concerns about the risk of a future recession and/or a possible asset market turmoil in the US due to the FRB's monetary tightening. The bearish movements in the US stock market seem to transmit to the Japanese stock market immediately.

The FRB's shift to monetary tightening has been accompanied by an increase in the interest rate, thus adding upward pressure to the term structure of the Japanese interest rates through arbitrage. Taking that the Japanese economy is not strong enough to withstand upward pressure on interest rates from abroad, however, the BOJ has maintained its policy of guiding the long-term interest rate at around 0 percent. This has resulted in widening the interest rate differential between the Japanese yen and the US dollars, creating a tendency for the yen to depreciate and the dollar to appreciate. The FRB's monetary tightening is expected to continue for some time, and the BOJ's monetary easing policy, including its guidance of long-term interest rates, is also expected to continue for the foreseeable future. Consequently, yen has depreciated from the middle of the 100 yen per USD 1 at the beginning of 2021 to the 133 yen per USD 1 as of June 7, 2022.

This depreciation of the yen is one of the factors pushing up import prices in Japan. The yen depreciation together with the sharp rises in resource and food prices at the global market had pushed the CPI upward to 2.5% by April 2022. The core core CPI excluding energy and food, however, has remained at 0.1% at the same point in time, even though the headline CPI has already exceeded the 2% target inflation rate.

This reflects the current weakness of the Japanese real economy. As noted above, production in the Japanese economy has not yet reached the levels seen before the COVID-19 outbreak. The core core CPI is rising, but its level is still low at the current point in time. However, this indicator should continue to be monitored closely because Japan's 10-year BEI has been gradually rising, mainly due to overseas factors.

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